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# Settlement Schemes in Tropical Africa

*A Study of Organizations and  
Development*

ROBERT CHAMBERS



LONDON

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All photographs are of the Mwea Irrigation Settlement.

# Abbreviations and Conventions

## 1 *Short titles for schemes*

The full title for each scheme is given the first time it is mentioned in the text. Subsequently, most schemes are referred to in an abbreviated form, as they often are colloquially. The most common abbreviations used are:

<i>Short title</i>	<i>Full title and country</i>
Ahero	Ahero Pilot Irrigation Project, Kenya
ALDEV Schemes	African Land Development Organization Settlement Schemes, Kenya
Anchau	Anchau Rural Development and Settlement Scheme, Nigeria
Chesa	Chesa Native Purchase Area Land Settlement Scheme, Rhodesia
Damongo	Gonja Development Company Scheme, Damongo, Ghana
Daudawa	Daudawa Land Settlement Scheme, Nigeria
Eastern Nigerian Settlements	Settlements of the Eastern Nigerian Farm Settlement Programme
Fra Fra	Fra Fra Resettlement Scheme, Ghana
Gezira	Gezira Scheme, Sudan
Ilora	Ilora Farm Settlement, Western Nigeria
Kariba	Kariba Resettlements, Rhodesia and Zambia
Kenya Million-Acre Scheme	Million-Acre Settlement Scheme, Kenya
Khasm-el-Girba	Khasm-el-Girba Project, Sudan
Kigezi	Kigezi Resettlement Schemes, Uganda
Kigumba	Kigumba Settlement Scheme, Uganda
Kiwere	Kiwere Settlement, Tanzania
Kongwa	Kongwa Farming Settlement Scheme, Tanzania
Managil	Managil South-Western Extension of the Gezira Scheme, Sudan
Mubuku	Mubuku Irrigation and Pilot Demonstration Project, Uganda
Muhuroni	Muhuroni Complex Sugar Scheme, Kenya
Mungwi	Mungwi Settlement Scheme, Zambia
Mwea	Mwea Irrigation Settlement, formerly the Mwea-Tebere Irrigation Scheme, Kenya
Nachingwea	Nachingwea Tenant Farming Scheme, Tanzania

## ABBREVIATIONS AND CONVENTIONS

Niger Agricultural Project	Niger Agricultural Project at Mokwa, Nigeria
Nyakashaka	Nyakashaka Resettlement Scheme, Uganda
Ol Kalou	Ol Kalou Salient, Kenya
Orin-Ekiti	Orin-Ekiti Farm Settlement, Western Nigeria
Perkerra	Perkerra Irrigation Scheme, Kenya
Rwamkoma	Rwamkoma Pilot Village Settlement, Tanzania
Sabi	Sabi Valley Irrigation Projects, Rhodesia
Shendam	Shendam Resettlement Scheme, Nigeria
South Busoga	(second) South Busoga Resettlement Scheme, Uganda
Sukuma	Sukumaland Development Scheme, Tanzania
Tanzania Pilot Village Settlements	Pilot Village Settlement Programme, Tanzania
Tema	Tema-Manhean Resettlement, Ghana
Uganda Group Farms	Group Farming Programme, Uganda
Upper Kitete	Upper Kitete Pilot Village Settlement, Tanzania
Urambo	Urambo Tobacco Scheme, Tanzania
Volta	Volta River Resettlements, Ghana
Western Nigerian Settlements	Settlements of the Western Nigerian Farm Settlement Programme
Zande	Zande Scheme, Sudan

### *2 Other Abbreviations*

A.A.O.	Assistant Agricultural Officer
A.D.C.	African District Council
ALDEV	African Land Development Organization
D.A.O.	District Agricultural Officer
D.C.	District Commissioner
D.O.	District Officer
J.I.C.	Joint Irrigation Committee
L.N.C.	Local Native Council
Local Committee	The Mwea-Tebere Irrigation Scheme Committee, later the Mwea Irrigation Settlement Committee
M.I.S. Annual Report	Mwea Irrigation Settlement Annual Report
M.O.W.	Ministry of Works (used also to refer to its predecessor the Public Works Department)
P.A.O.	Provincial Agricultural Officer
P.C.	Provincial Commissioner

### *3 Conventions*

The term 'Agricola' is used to denote professional agriculturalists and agricultural managers, regardless of their departments. It can thus, in the description of the history of the Mwea Irrigation Settlement, be used for officers of the Department of Agriculture and of ALDEV. 'The Agricolas',

## ABBREVIATIONS AND CONVENTIONS

'the Engineers', and 'the Administration' are used with equal weight in discussions of departmental and professional attitudes to describe agriculturalists (Department of Agriculture and ALDEV), hydraulic engineers (M.O.W.), and administrative officers (Provincial Administration), respectively.

To avoid overburdening the text with footnotes only the more important sources are cited. For some sections, however, sources are given in more detail in my thesis: 'The Organization of Settlement Schemes: a comparative study of some settlement schemes in anglophone Africa, with special reference to the Mwea Irrigation Settlement, Kenya', Manchester University, 1967. The present book, however, incorporates major revisions and additions so that a source may not always be traceable.

## Preface

This book originates in personal, somewhat amateurish involvement in rural development projects. While serving in the Administration in Kenya I had some responsibility for two schemes, both of which had chequered histories not unrelated to the way in which they were managed. The first was a grazing control programme which subsequently collapsed, and the second a water reticulation scheme which ran into financial difficulties. This doubtful practical record qualified me for transfer to the safer task of teaching administration, which provided incentive and opportunity to study the organization of development schemes and the behaviour of those who initiate and manage them. At first the Perkerra Irrigation Scheme in Kenya seemed a suitable case for examination, but later I changed to the Mwea Irrigation Settlement which had better written records and a less unusual history.

At the same time social scientists in East Africa were beginning to take increased interest in settlement schemes. Following discussions with some of them, and a steady accumulation of studies from Central and West Africa, it began to appear that settlement schemes might provide a coherent and intelligible field of study. The attention being given by governments to plans for future settlement suggested that work in this field might have some practical use, and the absence of any body of ideas that could be called a theory of settlement promised the pleasures of exploration. I therefore visited what schemes I could, and was fortunate in being able to spend six weeks in Ghana studying the Volta River Resettlements, as well as visiting settlement schemes in Kenya, Uganda, Tanzania, and, fleetingly, the Sudan. Gradually, the study came to centre on settlement schemes as organizations.

The deeper I went into the history of the Mwea Scheme, the more I came to see that interdepartmental relations were significant. In addition, my experience working in government had made me feel that these relations were important in understanding how and why government acted as it did. At the same time, it was evident that they were a neglected aspect of development schemes in Africa, both in description and in planning. It therefore seemed useful to pay attention to them and in particular to organizational conflict. The result, however, is not intended to be, nor is it, an attack on colonial or any

## PREFACE

other government, nor on any profession, department or person. Those who work in bureaucracies, universities not least, know that departmentalism is more or less universal, and that attempts are sometimes made to pretend that it does not exist, as though it were abnormal or discreditable. But it serves no useful purpose to conceal it; rather the reverse. For if planning and administration are to be realistic, they must take departmentalism and its probable manifestations into account as part of the scene. Indeed, as I suggest, it should often be possible through intelligent anticipation to reduce those of its effects which are harmful.

This study has many limitations. To state some will not remove them, but will at least serve to warn the reader. In the first place, I have the biases of a convinced 'developer', believing that rapid economic development in the third world is desirable. I generally see problems from the point of view of the 'developers' rather than the 'developed', and would argue that relatively too much attention has been paid to social factors and too little to administrative factors in analysing the processes of development.

A second limitation is the sources of this study. On the positive side, I was able to visit settlement schemes in Ghana, Kenya, the Sudan, Tanzania and Uganda; to interview many people involved in settlement scheme organizations, and to administer a questionnaire to 100 junior staff on Mwea; to study primary documents in Ghana and Kenya, and secondary sources for eight countries—Ghana, Kenya, Nigeria, Rhodesia, the Sudan, Tanzania, Uganda and Zambia; and to hold long discussions with other students of settlement schemes. But against this I must record that many of my visits were excessively brief and the information gained superficial; that in applying the questionnaire to junior staff on Mwea a number of questions had to be abandoned (the shortcomings lying at least as much in the questions as in the responses); that primary documents usually have the disadvantage of omitting reference to the informal communication which is often crucial in determining the pattern of events; and that secondary sources are difficult to handle comparatively because the information they present is so often disparate.

Third, there is a major and very obvious methodological weakness. The approach has been to make an historical and administrative study of one scheme, the Mwea Irrigation Settlement, and then to follow it with comparisons with other settlement schemes, leading through to an attempt to draw together a comparative analysis and some practical lessons. Mwea has been used, as it were, for dissection in order to compile an inventory of the parts of a settlement scheme, and this inventory has then been used to provide boxes for sorting information about other settlement schemes. This approach has the

## PREFACE

obvious disadvantage of the implicit assumption that Mwea is typical of settlement schemes in general, and carries with it the danger of treating Mwea as a paradigm from which all other schemes are in some way lapses or deviations. Being aware of this shortcoming does not necessarily mean that it is sufficiently compensated for, and it is open to question whether, had another scheme been chosen for detailed study, somewhat different conclusions might not have emerged.

A fourth problem arises from the choices of research students. The schemes which get studied are usually schemes of studiable size. These tend also to be manager-sized, that is to say, of a size and complexity suitable for management by one man and a small staff. The very large schemes like Gezira and the Kenya Million-Acre Scheme are not as attractive, and tend to receive generalized studies which are not comparable in the level of detail with studies of smaller settlements. There is, therefore, a danger of an ideal type of the relatively small scheme emerging, even unconsciously, while larger schemes are ignored.

A final difficulty is the personality variable. A promising scheme may fail or an unpromising scheme succeed as a result of the performance of the man in charge. Further, personal idiosyncracies are often given free rein in the autonomous commands provided by many isolated settlement schemes. However, I have not described the personalities of individuals in any detail. This is partly because much of my perception is secondhand, through the eyes of others; partly because much of my understanding of people and events derives from interviews, and it would be contrary to the spirit of free discussion in those interviews to use them to give character sketches of third persons; and partly because I would not be sure that I was being fair. The resulting descriptive weakness is perhaps less serious than it might at first sight appear, for two reasons. In the first place, in general terms, I am able to discuss the character and attitudes of staff in chapters 7 and 8, and so to introduce this important variable into the analysis. Second, the attitudes, behaviour and conflicts which are described are to a considerable extent intelligible in terms of roles generated or demanded by evolving scheme situations. All the same, it has to be admitted, indeed emphasized, that within the bounds set by these roles and situations there is scope for individual variation and that at scheme level one of the most decisive influences remains the personality of a manager.

# Acknowledgements

This study could not have been carried out without the help of many organizations and people. For reasons of space I cannot mention them all here, but I should like to thank them all none the less.

The Ministry of Overseas Development supported me during the bulk of the field work, and the Department of Government of the University of Manchester during most of the writing-up. I am grateful to both organizations, and to those in them who tolerated my absences while working on this study and who did the work that I might otherwise have done. I particularly want to thank the first and second Directors of the East African Staff College, Guy Hunter and Hamish Millar-Craig, for the understanding they showed towards my frequent disappearances, without which the field work could never have been completed.

Most of the research was carried out in Kenya. The President's Office approved my work, and I was given considerable assistance both in Nairobi and in the field by officials of several ministries and departments, especially the Provincial Administration, the Ministry of Agriculture, the Water Development Department, the Department of Settlement, and latterly, after its formation, the National Irrigation Board. In Kenya and England many of the principal participants in the early days of the Mwea Scheme were helpful in combing their memories and gave freely of their impressions and recollections. Among those officials who were serving at the time of this study, I owe particular thanks to Richard Alai who was District Commissioner for Kirinyaga District during much of the period, Mrs Luckham who was Librarian in the Ministry of Agriculture, and John Stemp, the Manager of the Perkerra Irrigation Scheme. On the Mwea Irrigation Settlement a great deal of assistance in many large and small ways was given by successive Managers, many members of the senior and junior staff, and tenants. Many of these submitted to long interviews and gave freely of their spare time to help. My greatest debt here is to E. G. Giglioli, now General Manager of the National Irrigation Board, for long and fruitful discussions and for consistent interest in and support for the work I was doing.

The opportunity to study the Volta River Resettlement Operation in Ghana arose from the initiative of Commander Sir Robert Jack-



## ACKNOWLEDGEMENTS

son, and an invitation from the Ghana Government. While the purpose of my visit to Ghana in 1965 was a separate work on the Resettlements, the insight obtained into a West African settlement scheme provided a useful comparison with East Africa. I am grateful to E. A. K. Kalitsi, the Resettlement Officer, and G. W. Amarteifio, the Resettlement Manager, for long interviews and for the arrangements made for me to visit most of the resettlement towns; to James Moxon for his advice and hospitality; and to David Butcher, Laszlo Huszar and Rowena Lawson for discussions and encouragement. My especial thanks are due to Kwame Frempah, who as guide, assistant and friend, made my visit not only useful but enjoyable.

I am also obliged to those, not least the Managers, who enabled me to visit some Group Farms and the Nyakashaka Resettlement Scheme in Uganda, and the Upper Kitete Village Settlement in Tanzania.

This study has been made possible by the advice, insights, and findings of others. New lines of enquiry which I should otherwise have missed were opened up for me by Professor Colin Leys and Professor Gilbert White. A great deal of information and many ideas have come from other students of settlement schemes in East Africa. I find I cannot acknowledge in detail my many debts to them, but I have learnt much from discussions with Professor Raymond Apthorpe, Brack Brown, Simon Charsley, David Feldman, Caroline Hutton, Jon Moris, Peter Rigby, Stephen Sandford and Rachel Yeld, among others. To the Syracuse University Team working on village settlement in Tanzania—Kenneth Baer, Carol Fisher, Nikos Georgoulas, James Lewton-Brain, Robert Myers, John Nellis, Anthony Rweyemamu, Garry Thomas and Rodger Yeager—I am grateful for stimulating discussions and for many personal communications. Those with whom I have corresponded are too numerous to list, but I hope they too will accept my thanks for information freely given. The sense of excitement in a common interest among those carrying out research on settlement schemes, and their generosity in making findings available, have maintained a sense of momentum and added greatly to the pleasure of investigation.

In the context of the Mwea Irrigation Settlement I am grateful to Stephen Sandford for information from his analysis of early expenditure on the Scheme; Benjamin Kihara for carrying out some of the interviews with junior staff; and James Kimani for obtaining detailed information which filled in some of the gaps in my knowledge. I owe most, however, to Jon Moris for his partnership in studying the Scheme. The UNICEF/Makerere Farm Innovation Survey carried out under his direction by students of the Department of Agriculture,

## ACKNOWLEDGEMENTS

Makerere University College, has provided useful understanding. But my greatest debts to him are for long discussions to which he brought the insight of a sociologist widely familiar with agricultural development in East Africa, and in which many of the ideas in this book arose.

The experience of writing has taught me to appreciate the value of comments on drafts, and the amount of time and energy that making them entails. R. F. Marshall, Jon Moris, Wyn Reilly, Stephen Sandford, Douglas Taylor and William Tordoff read and commented on substantial sections, and Brack Brown, Cherry Gertzel, E. G. Giglioli, Professor A. H. Hanson and Professor W. J. M. Mackenzie read and commented in detail on entire drafts. Annuschka Reilly eliminated much bad style from an earlier version. Much reorganization and correction has resulted from the suggestions made by these various people to whom I am grateful for the time and effort they so generously devoted. Responsibility for errors of fact, interpretation and style that remain is, of course, entirely mine.

My greatest debt is to Professor W. J. M. Mackenzie for his support and encouragement from the beginning, for piloting through the complicated arrangements for the field work, for his detailed comments and wise guidance, and for making the writing-up possible. Above all, I am grateful to him for the stimulation of a range of ideas which made thinking and writing both more exacting and more rewarding.

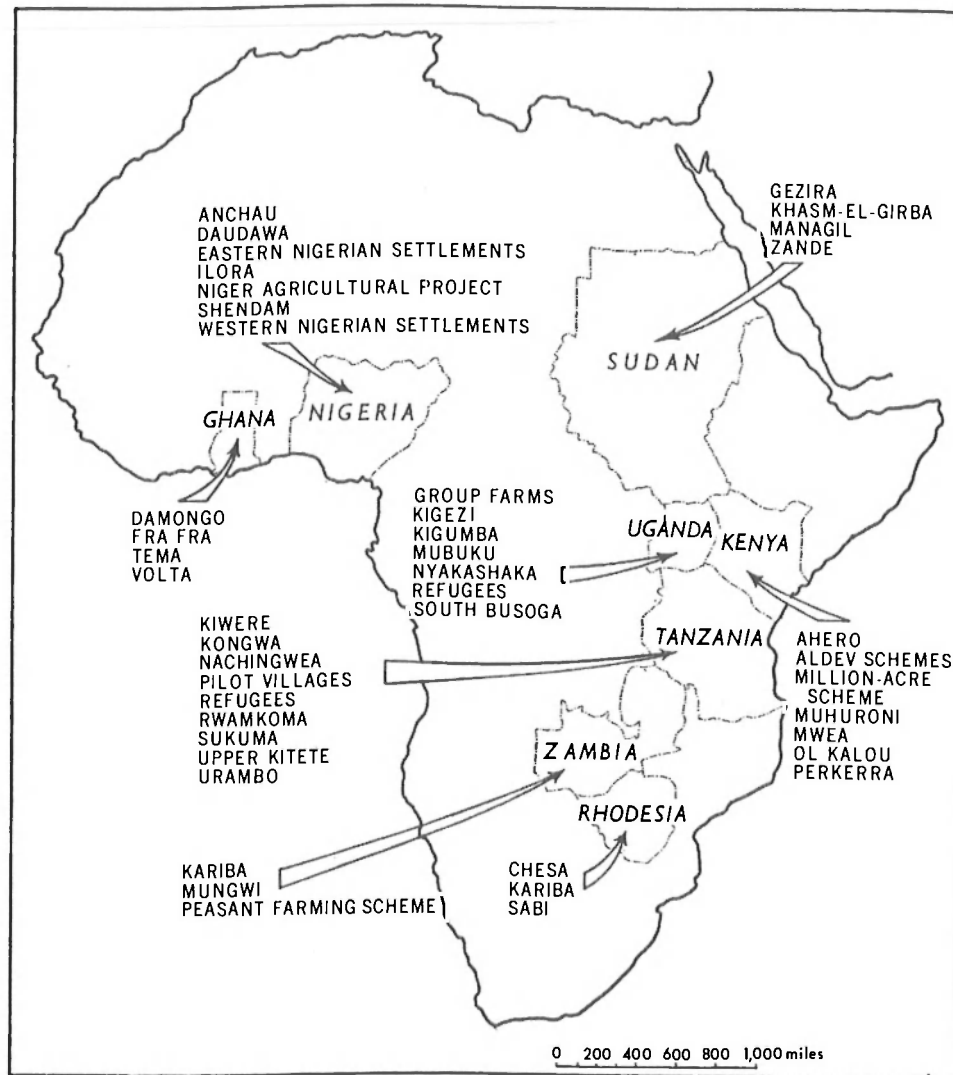
Arline Harris and Tamie Swett brought imagination, stamina and forbearance to their battles with the typing. Rachel Higham managed to draw the first versions of the maps despite the attentions of her children, and A. G. Kelly drew the final versions.

Finally, I want to thank all those who helped me to remain tolerably sane for most of the time I was writing.

# Part I

## The Setting and the Schemes

# SOME SETTLEMENT PROGRAMMES AND SCHEMES IN EIGHT AFRICAN COUNTRIES



Note: Most of the titles of programmes and schemes have been abbreviated. The full titles are given on pages xv—xvi.

## CHAPTER 1

# The Significance and Study of Settlement Schemes

### *Scale and importance of settlement schemes*

In the past decade, the balance of economic prescriptions for the third world has swung away from industrialization and towards agriculture as a means of achieving economic growth.<sup>1</sup> At the same time governments in less developed countries, whether still under colonial rule or independent, have launched projects for the reorganization of agriculture and for the introduction into agriculture of more advanced technology. Agricultural schemes started in British colonies before independence, and since independence in nations formerly under British rule, have included a wide range of approaches: land consolidation, farm planning, crop rotation, credit schemes, marketing co-operatives, cash crop introduction, mechanization and state farming, among others.

Some of the most conspicuous of these projects have been what are described as settlement or resettlement schemes. In the colonial period these were initiated in places as widely dispersed as Aden, Ceylon, Malaya, North Borneo, Sarawak and Trinidad.<sup>2</sup> In anglophone Africa (which is considered here notably in Western, Central and Eastern Africa including the Sudan) settlement and resettlement schemes have been and continue to be common and prominent.

The resources devoted to these projects have been large. They have, of course, included land, labour, and technical and administrative expertise; but an indication of the magnitude of investment is most readily given in terms of capital. Table 1.1 presents actual or planned expenditure for some of the largest settlement and resettlement programmes and schemes:

<sup>1</sup> See for instance, William H. Nicholls, 'The Place of Agriculture in Economic Development', in Carl K. Eicher and Lawrence W. Witt, eds., *Agriculture in Economic Development*, McGraw-Hill, New York, 1964, pp. 11-44.

<sup>2</sup> *Notes on Some Agricultural Development Schemes in British Colonial Territories*, H.M.S.O., London, October 1955.

## SIGNIFICANCE AND STUDY OF SETTLEMENT SCHEMES

TABLE 1.1

*Orders of magnitude of capital costs of some settlement and resettlement schemes in anglophone Africa*

Figures to the nearest million

Country	Scheme	Capital cost £ million
Ghana	Volta River Resettlements <sup>1</sup>	9
Kenya	Million-Acre Settlement Scheme <sup>2</sup>	23
	Mwea Irrigation Settlement <sup>3</sup>	1
Nigeria	Western Nigeria Farm Settlement Programme 1962-68 <sup>4</sup>	6*
	Eastern Nigeria Resettlements 1962-68 <sup>5</sup>	6*
Northern Rhodesia	Kariba Resettlement <sup>6</sup>	1
Southern Rhodesia	Resettlements under the Land Apportionment Act <sup>7</sup>	3
	Kariba Resettlement <sup>8</sup>	1
Sudan	The Gezira Scheme <sup>9</sup>	20
	Managil South-Western Extension of the Gezira Scheme <sup>10</sup>	S39
	Khasm-el-Girba Resettlement <sup>11</sup>	S25*
Tanzania	Village Settlements <sup>12</sup>	9*

\*Forward estimates, not actual expenditures.

*Notes:* Accounting systems vary, and it is common for settlement schemes to receive substantial hidden subsidies which do not appear in official figures such as those quoted here.

Here and subsequently, wherever conversions into £ sterling have been made from other currencies, the exchange rates before the U.K. devaluation of 1967 apply.

<sup>1</sup> *Sources: Volta River Authority Annual Report for the Year 1965*, Guinea Press, Accra, 1966, p. 19. The final capital cost will be considerably larger.

<sup>2</sup> Communication, 10 April 1968, from the Acting Financial Controller (Settlement), Department of Settlement, Kenya, giving the capital cost to 30 June 1967 as £22½ million, and the estimated final capital cost for the extension to 1½ million acres as £28½ million.

<sup>3</sup> 'National Irrigation Schemes: Consolidated Capital, Expenditure, and Revenue Figures for the 11 Years to 30 June 1966 (amended)', (mimeo), by the Secretary/Chief Accountant, National Irrigation Board. The capital expenditure on the Mwea Irrigation Settlement for the period to 30 June 1966 was given as £787,368.

<sup>4</sup> *Western Nigeria Development Plan 1962-68*, Sessional Paper No. 8 of 1962 of the Western Nigeria Legislature, p. 68.

<sup>5</sup> *Eastern Nigeria Development Plan 1962-68*, p. 164.

<sup>6</sup> Montague Yudelman, *Africans on the Land*, Harvard University Press, Cambridge, Mass., 1964, p. 271.

<sup>7</sup> Elizabeth Colson, *Social Organization of the Gwembe Tonga*, Manchester University Press, 1960 (Appendix C: Kariba Resettlement—Northern Rhodesia: a note on Northern Rhodesian Settlement Plans by the Development Officer of the Northern Rhodesian Government), p. 221.

In 1967 and early 1968, in addition to these programmes and projects, many more were being considered or launched. In Ghana, for example, it was reported in 1967 that a settlement farm mainly for school-leavers was being started at Kpandu, with an estimated capital cost of £1.2 million.<sup>1</sup> In Western Nigeria the Crash Development Programme for 1968–1971 included an estimate of £3.2 million for farm settlements.<sup>2</sup> In Northern Nigeria a resettlement operation was in hand for the population displaced by the Kainji dam. In Kenya the Million-Acre Scheme was being extended to one and a half million acres. In Zanzibar a proposal was reported in 1967 to move 100,000 people, a third of the population, from less fertile to more fertile land.<sup>3</sup> Moreover, in several countries in Africa a good deal of *ad hoc* resettlement, with varying degrees of assistance from governments, from the United Nations High Commission for Refugees, and from voluntary agencies (among which Oxfam was prominent), continued to take place to deal with the severe refugee problems of the continent. In May 1967 there were estimated to be 740,000 refugees in Africa south of the Sahara, of whom 100,000 had been re-established as a result of rural implantation programmes, but of whom some 250,000 were still in need of assistance.<sup>4</sup> Further, in Nigeria it seemed likely that refugee and resettlement problems resulting from the civil war would continue for some time.

<sup>1</sup> *Ghanaian Times* (Ghana), 18 September 1967. The estimate given was 3.5 million New Cedis.

<sup>2</sup> *Crash Development Programme 1968–71*, Ministry of Agriculture and Natural Resources, Ibadan, 1968.

<sup>3</sup> *The Standard* (Tanzania), 23 March 1967, reporting a statement by the First Vice-President, Mr Karume.

<sup>4</sup> Reported in *Africa Research Bulletin, Political, Social and Cultural Series*, 1–31 May 1967, p. 775.

<sup>8</sup> Colson, op. cit. (Appendix D: Kariba Resettlement—Southern Rhodesia, by the Chief Information Officer, Native Affairs Department, Southern Rhodesia), p. 226.

<sup>9</sup> *Report of the East African Royal Commission 1953/55*, Cmd. 9475, London, H.M.S.O., 1955, p. 330.

<sup>10</sup> D. J. Shaw, 'The Managil South-Western Extension: an Extension to the Gezira Scheme', *Bulletin No. 9 issued by the International Institute for Land Reclamation and Improvement*, H. Veeman and Zonen N.V., Wageningen, 1965, p. 20.

<sup>11</sup> D. S. Thornton and R. F. Wynn, 'An Economic Assessment of the Khassim-el-Girba Project' (mimeo), Faculty of Agriculture, University of Khartoum, March 1965, p. 2.

<sup>12</sup> *Tanganyika Five Year Plan for Economic and Social Development 1 July 1964–30 June 1969*, Dar es Salaam, Government Printer, 1964, Vol. 1, p. 21. Over sixty village settlements were to be established in the five year period, each justifying the investment in economic and social overheads of £150,000. In April 1966, however, it was announced that the programme had been suspended.

## SIGNIFICANCE AND STUDY OF SETTLEMENT SCHEMES

More imponderable, but potentially much larger in scope, are the long-term possibilities for settlement schemes, especially for irrigation. In Ghana a succession of surveys have been carried out in the lower Volta flood plain where there are some 300,000 acres of riverain land potentially suitable for irrigation, and various proposals for development have been, and continue to be, considered.<sup>1</sup> In Northern Nigeria a pre-irrigation soil survey of the extensive area of the Chad basin between Lake Chad and Kano is in hand.<sup>2</sup> In Uganda the Mubuku Irrigation and Demonstration Project, started in 1962, continues with a view to establishing the possibility of developing 15,000 acres for irrigation.<sup>3</sup> In Kenya the Ahero Pilot Irrigation Project of 2,000 acres is being pushed forward with outstanding energy and speed in an area, the Kano Plains of Nyanza Province, where the ultimate irrigation potential is about 35,000 acres.<sup>4</sup> Also in Kenya, investigations continue in the lower Tana Basin where a United Nations survey has reported that an irrigation scheme of 360,000 acres might cost £150 million.<sup>5</sup> In Tanzania a United Nations team has carried out an irrigation survey of the Wami and Pangani valleys, and the Rufiji valley has been estimated to have an irrigation potential of 200,000 acres.<sup>6</sup> In Malawi irrigation investigations are under way in the Shire Valley. In Botswana funds were provided in 1967 for a survey of the potential of the huge area of the Okovango swamp.<sup>7</sup> Elsewhere many investigations and new projects are being carried out: in the Blatte Valley in Ethiopia, in the Kafue basin in Zambia, in the Sabi valley in Rhodesia, at Vuvulane in Swaziland and Qamata in the Transkei in South Africa, to mention but a few. Moreover, there are many similar surveys and schemes in the francophone African countries; and in North Africa what is perhaps the largest project under consideration in Africa, a proposal to irrigate an ultimate 740,000 acres in the Sebou Valley in Morocco, has been estimated to cost £210 million.<sup>8</sup> The list could be extended, but the point is already clear: settlement and resettlement schemes

<sup>1</sup> See, for instance, *West Africa*, No. 2586, 24 December 1966, p. 1475, and *Daily Graphic* (Ghana) 18 and 19 August 1967.

<sup>2</sup> *New Nigerian* (Kaduna), 1 August 1967.

<sup>3</sup> G. D. Agrawal, 'Some Considerations Affecting the Organization of the Mubuku Irrigation Scheme' (mimeo), Makerere University College, Rural Development Research Project paper no. 35, 1966.

<sup>4</sup> E. G. Giglioli 'Aspects of Planning Irrigated Settlement in Kenya' (mimeo), Nairobi, National Irrigation Board, 28 August 1967.

<sup>5</sup> Interim report of a United Nations Special Fund survey of the lower Tana basin in Kenya, reported in the *East African Standard* (Nairobi), 17 November 1965

<sup>6</sup> Report of a United States Bureau of Reclamation study team, quoted in the *Daily Nation* (Nairobi), 1 August 1967.

<sup>7</sup> Broadcast in English from Gaborone, Botswana, 26 July 1967.

<sup>8</sup> *Financial Times* (London), 9 March 1967.



in Africa have involved large investments in the past, and the scale of future investment is potentially enormous.

In social and economic terms, however, the record of past schemes has been discouraging. Not only have they given rise to many problems, but outright failures and collapse have been common. In the Gold Coast, for instance, the Gonja Development Company, formed in 1950 with a share capital of £1 million and with village settlement as one of its aims, was wound up in 1956 having achieved, in the words of one authority, 'nothing except extravagant expense for the Ghana Government'.<sup>1</sup> In Nigeria the Niger Agricultural Project at Mokwa was closed down in 1954 after an expenditure of £½ million.<sup>2</sup> In the southern Sudan the Zande Scheme, in which there had been a government investment of £1 million, culminated in 1955 in riots and martial law.<sup>3</sup> In Uganda the South Busoga Resettlement Scheme more or less ceased to exist in 1961,<sup>4</sup> and in Kenya the Lambwe Valley Settlement Scheme, started in 1951, was a virtual failure by 1959.<sup>5</sup> Nor has this disappointing experience been limited to the colonial period. In Tanzania, the ambitious post-independence programme for village settlements quickly ran into difficulties and was suspended in 1966,<sup>6</sup> and in Western Nigeria the settlements for school-leavers experienced multiple problems. Indeed in almost all countries settlement schemes have been criticized by sociologists, agriculturalists and economists for failure to achieve their social, agricultural and economic objectives, and for their absorption of scarce resources which might have been put to better use. In view of the common failures of the past and the extensive proposals for the future, there is a case for trying to learn from the experience to date and for examining the nature of settlement schemes in order to show what is being decided upon, so that any alternative policies can be more realistically weighed.

<sup>1</sup> S. La Anyane, *Ghana Agriculture, its Economic Development from Early Times to the Middle of the Twentieth Century*, Oxford University Press, Accra, 1963, p. 171.

<sup>2</sup> K. D. S. Baldwin, *The Niger Agricultural Project, an Experiment in African Development*, Blackwell, Oxford, 1957, p. 183.

<sup>3</sup> Conrad Reining, *The Zande Scheme: an Anthropological Case Study of Economic Development in Africa*, Northwestern University Press, Evanston, Illinois, 1966, pp. 214-217.

<sup>4</sup> Susan J. Watts, 'The South Busoga Resettlement Scheme', *Syracuse University Program of Eastern African Studies Occasional Paper No. 17*, Maxwell Graduate School of Citizenship and Public Affairs, Syracuse, April 1966, p. 36.

<sup>5</sup> *African Land Development in Kenya, 1946-1962*, Ministry of Agriculture, Animal Husbandry and Water Resources, Nairobi, 1962, pp. 178-181.

<sup>6</sup> Press release, IT/1.302, Ministry of Information and Tourism, Dar es Salaam: Address by the Second Vice-President, Mr R. M. Kawawa, at the opening of the Rural Development Planning Seminar at the University College, Dar es Salaam, 4 April 1966.

## SIGNIFICANCE AND STUDY OF SETTLEMENT SCHEMES

Much of the experience gained in settlement schemes and similar projects was sifted and digested in the 1950s when a body of doctrine about their successes and failures began to become established. In a perceptive article in 1954 Arthur Lewis emphasized the importance of a number of factors, many of which affected the performance and motivation of settlers.<sup>1</sup> In 1957 Baldwin exposed the sociological, agricultural, and economic shortcomings of the Niger Agricultural Project.<sup>2</sup> In 1959 Gaitskell contributed his classic work on Gezira with its wise precepts about development.<sup>3</sup> It became recognized that the post-war schemes had often been over-ambitious; that experiment and gradualism were important; that mechanization was difficult in tropical conditions and in underdeveloped countries; and that peasant settlers were more rational in their behaviour than had often been supposed. Something of an orthodoxy of explanation and understanding became accepted.

Strangely little attention was paid, however, to the creation, organization and management of settlement schemes.<sup>4</sup> Explanation of failure or success was generally limited to the dimensions of land, climate, settlers and agricultural process. Staff and organizations were taken as given. Only in Reining's admirable study of the Zande Scheme,<sup>5</sup> published in 1966, have they been examined in any detail by someone who was not himself involved in management. Reining's suggestions that 'the technological officials and experts be as much part of the research as the people being developed', and that 'the totality of the development project should be studied, rather than just the people being developed',<sup>6</sup> represented a new and useful approach.

It was only in pursuing his search for an understanding of what happened to those who were being developed that Reining came to study the developers. But *a priori* it would appear that in trying to understand projects and to derive practical lessons from them the staff and their organizations are, if anything, more important than the people they affect. It is the staff who decide policy and execute it. It is they who perceive or fail to perceive the details of the situation

<sup>1</sup> W. Arthur Lewis, 'Thoughts on Land Settlement', *Journal of Agricultural Economics*, Vol. 11, June 1954, pp. 3-11, reprinted in Eicher and Witt, op cit., pp. 299-310.

<sup>2</sup> Baldwin, op. cit.

<sup>3</sup> Arthur Gaitskell, *Gezira, a Story of Development in the Sudan*, Faber and Faber, 1959.

<sup>4</sup> Gaitskell's treatment of Gezira is an exception. Gezira was, however, in some respects a special case (see pp. 18-19) and Gaitskell had the disadvantages, as well as advantages, of writing from personal managerial experience.

<sup>5</sup> Reining, op. cit.

<sup>6</sup> Ibid., p. 231.

in which a scheme is launched. It is they, and not the people being developed, who hold the initiative, especially in the early stages of a project. If staff and organizations are examined, not as they were by Reining as a secondary concern but as a primary focus, then more practical lessons may emerge. Developers may be able to learn something about their own behaviour, about the problems and conflicts they are likely to face and about needs that have to be anticipated.

But if the developers were to become the exclusive object of any study, an unbalanced and unrealistic view would emerge. If valid lessons are to be teased out, then settlement schemes must be examined as wholes, including not only the developers and the developed but also land, climate, infrastructure, economic processes, and the social, political and economic environments in which they are found. Moreover, changes over time must be taken into account. Consideration of these aspects is attempted here, however inadequately, within the loose limitations of analysing settlement schemes primarily as organizations. This approach has several practical advantages. It directs attention to those administrative aspects which have tended to be ignored. It implies examination of the systematic relationships of parts, so that it can include all the elements, relationships, and activities which are found to be relevant. The roles, attitudes and behaviour of both staff and settlers are thus included, much as would be those of management and workers in a study of a factory. Equally, the physical layout and economic processes of a settlement scheme can be taken into account much as they would be in a study of an industrial organization.

Many questions are suggested by this approach. What sorts of organizations create settlement schemes, and what are their relationships with one another? What sorts of men become staff and settlers, and what attitudes and expectations do they bring to schemes? How do they behave towards each other, and what adaptations do they make? What forms of organizations develop on settlement schemes and why? What relationships do they have with other organizations in their environment? How do schemes and their problems change over time? What types of scheme can be identified? What lessons can be learnt and applied to future settlement schemes and to other development projects? What criteria does this approach suggest should be applied in evaluating agricultural schemes in general? These are some of the questions which are central to this study. But before considering them, there are problems of definition and method which, while of less interest to a practical man than to a student, must be dealt with in order to set more clearly the scope and direction of what follows.

*Scope and some limitations of the study*

Up to this point settlement and resettlement schemes have been treated as though they are an intelligible and coherent field of study. But are they? And if so, how should the field be defined?

On first inspection, the entities described as settlement or resettlement schemes display a bewildering variety. Among their purposes they may include soil conservation, the relief of famine, tsetse fly clearance, the settlement of refugees, evacuees, unemployed and school-leavers, the creation of new production, ideological aims, and the solution of political problems. In size they range from the Gezira and Managil Schemes in the Sudan, which together cover some 1,800,000 acres<sup>1</sup> and have supported a population of nearly 900,000,<sup>2</sup> to the Nyarushanje Farm School Settlement in Uganda, which in 1965 covered 160 acres and supported six unmarried young men.<sup>3</sup> In capital cost they have varied from £4,000 per settler as planned for the Western Nigeria Farm Settlement Programme<sup>4</sup> to just over £1 per head of population claimed for the Kigezi Resettlement Scheme in Uganda.<sup>5</sup> The land settled has sometimes been uncultivated bush or forest, and in other cases was already cleared and developed before settlement. The agricultural systems have ranged from family smallholdings farmed traditionally to highly centralized and mechanized cash crop farming. In some schemes almost all operations have been left to the self-help and initiative of the settlers; in others many operations have been carried out by a settlement organization. The diversity is such that it may well be asked whether settlement schemes constitute a class of entity that hangs together as an intelligible field of study, or whether the use of the expression 'settlement scheme' to describe them all leads to the old error of supposing that because there is a term there must be a natural category to which the term refers.

Three definitions of settlement or resettlement schemes illustrate this difficulty. Bridger has used 'settlement schemes' to mean 'the transfer of population from one area to another on a planned basis,

<sup>1</sup> R. J. Harrison Church, 'Observations on Large Scale Irrigation Development in Africa', *Agricultural Economics Bulletin for Africa*, No. 4, November 1963, p. 35.

<sup>2</sup> Shaw, *op. cit.*, p. 16. The exact figure, 887,329, was derived from First Population Census of Sudan, 1955/56, Khartoum, Ministry of Social Affairs, Population Census Office, 1957, Table 7.

<sup>3</sup> Personal visit, January 1965.

<sup>4</sup> Dr D. S. Onabamiro, Minister of Agriculture and Natural Resources, reported in *Western Nigeria House of Assembly Debates Official Report*, 16 April 1964, Column 546.

<sup>5</sup> J. W. Purseglove, 'Kigezi Resettlement', *The Uganda Journal*, Vol. 14, No. 2, September 1950, p. 149.

the object being to raise living standards'.<sup>1</sup> Belshaw has written that 'All "resettlement schemes" may be defined as projects involving the planned and controlled transfer of population from one area to another'.<sup>2</sup> Apthorpe has suggested, with careful qualifications, that land settlement can be regarded as one subdivision of 'planned social change that necessarily does entail population movement, population selection and most probably population control subsequently', there being at least two other subdivisions—the sedentarization of nomadic or pastoral populations, and the villagization of cultivators.<sup>3</sup> In interpreting these three definitions there are varying degrees of difficulty in determining what mixture they represent of rationalizations of common usage, logical definitions, descriptions of natural categories, or convenient *ad hoc* outlines of the scope of the papers they introduce.

The purpose here is neither to describe a natural category nor to present an exclusive verbal definition, but simply to outline the boundaries of the inquiry. For convenience the main area of attention can be defined by common usage. On examination, what are called settlement or resettlement schemes do in fact show the two features common to the three definitions or descriptions just quoted: a movement of population; and an element of planning and control. These correspond roughly with the words 'settlement' (or 'resettlement'), and 'scheme', respectively. Both 'settlement' and 'resettlement' imply population movement, but since 'settlement' is the more inclusive word, it will be used here except where it appears in the title of a scheme or where the particular sense of dislodgement before transfer implied in 'resettlement' is required. But 'settlement' means more than this. Both as a word and in the schemes considered, there is an implication of the establishment of people upon land in some relatively permanent manner. The second word, 'scheme', is synonymous with 'project', and is commonly used to imply an organized attempt to introduce change. In anglophone Africa schemes have been initiated by agencies, usually but not always governmental, which can be regarded as distinct from the receiving environments, and have typically involved some degree of continuing influence and control, if only for a limited period. What we find described as settlement schemes corresponds with the overlap

<sup>1</sup> G. A. Bridger, 'Planning Land Settlement Schemes', *Agricultural Economics Bulletin for Africa*, No. 1, September 1962, p. 21, footnote.

<sup>2</sup> D. G. R. Belshaw, 'An Outline of Resettlement Policy in Uganda, 1945-63', *East African Institute of Social Research Conference Paper June 1963*, p. 1.

<sup>3</sup> Raymond Apthorpe, 'A Survey of Land Settlement Schemes and Rural Development in East Africa', *East African Institute of Social Research Conference Papers January 1966*, No. 352, pp. 1-2. The quotation is from page 1.

of the words 'settlement' and 'scheme' in these senses. They do, in practice, involve both population movement and organized attempts to establish people upon land.

This outline of meaning does not assert that settlement schemes are a natural category; it is, rather, a statement of focus. It is not meant to exclude from examination related phenomena, especially schemes such as the Groundnut Scheme, which do not involve settlement, and settlement, such as population movements from higher to lower rainfall areas, which do not involve anything that can be called scheme. This broad span of relevance is justified by the primitive state of theory about settlement schemes in particular and about the organization of agricultural development in general. The common forms of description of agricultural projects and programmes often cut across settlement schemes. Land reform, in Warriner's sense of 'the redistribution of property in land for the benefit of small farmers and agricultural workers',<sup>1</sup> would include the Kenya Million-Acre Scheme but not, for instance, the Kiwere Settlement in Tanzania where unoccupied land was colonized. Similarly, descriptions of agricultural schemes by crop or by production technique may include both settlement and non-settlement. For instance, mechanical agriculture includes tractor hire services, state farms, most large estates, and some but not all settlement schemes. Another difficulty emerges over deciding whether borderline cases are settlement schemes or not. For instance, land consolidation in the Central Province in Kenya is not normally regarded as a settlement scheme, yet it involved 'scheme' in the reorganization and re-allocation of holdings, and 'settlement' when people were encouraged to move out of villages on to the land. In view of these various problems of definition, it is more useful to be pragmatic and inclusive than doctrinaire and exclusive in deciding what is relevant.

Much of the evidence used is the work of others who have studied settlement schemes. Inevitably the interests of different disciplines mean that information from one scheme is not often of the same sort as information from another. It can be said of settlement schemes, as Warriner has of land reform, that they constitute:

an academic no man's land. No single science or study has yet established its claims, and each has its limitations. No single method of approach can take us all the way. The subject remains what the Americans call inter-disciplinary and the English call borderline.<sup>2</sup>

<sup>1</sup> Doreen Warriner, 'Land Reform and Economic Development', in Eicher and Witt, *op. cit.*, p. 272.

<sup>2</sup> *Ibid.*, p. 274.

Fortunately for this study, the academic no man's land of settlement schemes has been attractive to many people by virtue of its visibility, its relatively clear boundaries, and its subdivision into individual schemes which make convenient units for study. Indeed, this attraction has made students some of the later invaders that have entered the territory colonized by settlement schemes. As a result the literature is rich and growing. Despite this attention, however, it cannot be said that there is any organized body of theory about settlement schemes.<sup>1</sup> Each student has brought his own discipline's point of view to bear, and has left some areas unilluminated. Just as colonizers of unoccupied land have to provide for themselves facilities which they would elsewhere take for granted, so students of settlement schemes have sometimes had to spread their inquiries beyond the normal limits of their disciplines. Where this has been done the results have often been particularly useful. For example, Baldwin, through discussing sociological as well as agricultural and economic aspects of the Niger Agricultural Project, has contributed many revealing insights.<sup>2</sup> Roder, though a geographer, by considering historical and administrative factors has made his account of the Sabi Valley Irrigation Projects far more intelligible than it would have been had he limited himself to more conventionally geographical description.<sup>3</sup> Gaitskell's masterly survey of the history of Gezira is similarly valuable because of its breadth.<sup>4</sup> In addition, many shorter works by social anthropologists, sociologists and economists have also shot shafts of light into the subject, and from different angles.

The result is an exciting but unmanageably large mass of disparate evidence. When in 1966 a number of students of settlement schemes in East Africa tried to draw up a checklist of questions that might be asked about settlement schemes in trying to see them as intelligible wholes,<sup>5</sup> it became clear that it would be impossible for any one scheme to discover all that was relevant. Only by being selective is it possible to proceed at all. This inevitably entails high risks of error and distortion. This study is selective, and unbalanced, in regarding

<sup>1</sup> To the best of my knowledge at the time of writing, April 1968.

<sup>2</sup> Baldwin, *op. cit.*

<sup>3</sup> Wolf Roder, *The Sabi Valley Irrigation Projects* (University of Chicago Department of Geography Research Paper No. 99), University of Chicago Press, Chicago, 1965.

<sup>4</sup> Gaitskell, *op. cit.*

<sup>5</sup> 'A Tentative Checklist of Questions about Settlement Schemes' (mimeo), ('based on initial discussions of Brain, Charsley, Chambers, Robertson and Yeld at Makerere on 5 January 1966, and subsequent discussions of Apthorpe, Brown, Chambers, Moris, Myers, Nellis, Rigby and Yeld, with assistance from Etherington, at Nairobi on 4 and 5 February 1966. Edited by Hutton and Apthorpe, following pre-editing by Chambers.')

settlement schemes primarily as organizations, and the reader must weigh for himself the degree of distortion this involves.

Two further limitations have been placed on the scope of this study. In the first place only Ghana, Kenya, Nigeria, Rhodesia, the Sudan, Tanzania, Uganda and Zambia are considered, since these are the only countries in colonial and ex-colonial anglophone Africa in which settlement schemes appear to have been examined in any detail. Second, European settlement is not considered, since it would have introduced extra variables into a study which was already in danger of trying to handle too wide a range of phenomena.

The sequence of presentation is first to outline the background and origins of settlement schemes in these eight countries, including brief mention of most of those which are reasonably well documented. Then in Part II a particular scheme, the Mwea Irrigation Settlement in Kenya, is examined in detail as an administrative case history. In Part III settlement schemes are considered as organizations in which people—staff and settlers—are actors, in which the parts are systematically related, and which exist and survive through relationships with other organizations in their environments. Finally, in Part IV, an attempt is made to draw together the analysis in forms which lead to practical lessons, by describing changes which take place in settlement schemes over time, by suggesting some types of settlement scheme which can be separated out, and by outlining policy implications for the future.